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MEASURING ORGANIZATIONAL COMMITMENT:
A REPLICATION OF PSYCHOMETRIC PROPERTIES AND
AN ANALYSIS OF THE ROLE OF SOCIAL DESIRABILITY

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Measuring Organizational Commitment:
A Replication of Psychometric Properties and
An Analysis of the Role of Social Desirability

Abstract

Utilizing several diverse samples ($N = 534$), the psychometric properties and role of social desirability response bias were assessed on the organizational commitment questionnaire (OCQ) developed by Lyman Porter and his colleagues. In particular, the analysis of means and standard deviations, internal consistency reliability, and discriminant validity generally agreed with earlier studies reporting positive results on these psychometric properties. However, the analysis of social desirability bias, which was recognized as a possibility but not specifically assessed in previous studies, was found to exist in the OCQ responses in this study. It is recommended on the basis of the results of this study that a social desirability measure, such as the Marlowe-Crowne instrument, be part of any research program using the OCQ.

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Measuring Organizational Commitment:
A Replication of Psychometric Properties and
An Analysis of the Role of Social Desirability

Organizational commitment is playing an increasingly important role in the study and analysis of organizational behavior. Recent work has been devoted to the theoretical development and meaning of the construct (Buchanan, 1974, 1975; Dubin, Champoux and Porter, 1975; Rotondi, 1980; Salancik, 1977a, 1977b) and utilizing it as both an independent and dependent variable in empirical studies (Brief & Aldag, 1980; Kidron, 1978; O'Reilly & Caldwell, 1980; Porter, Crampon & Smith, 1976; Steers, 1977; Wiener & Gechman, 1977; Wiener & Vardi, 1980). Unlike many of the other popular organizational behavior constructs (e.g. leadership or motivation), important initial attention is being devoted to the development of a reliable and valid measure of organizational commitment. In particular, Mowday, Steers and Porter (1979) have reported favorable reliability and validity of a 15 item Organizational Commitment Questionnaire (OCQ) developed by Lyman Porter and his colleagues. The purpose of this paper is to report the results of a replication study analyzing the psychometric properties of OCQ. In addition, the role that social desirability response bias (Crowne & Marlowe, 1960; Edwards, 1970; Marlowe & Crowne, 1961) may have on the measurement of organizational commitment is assessed.

Like other popular constructs in organizational behavior, commitment has been recognized for a long time in the social sciences (e.g. see: Becker, 1960; Kiesler, 1971). Also like the other constructs, there has been considerable variation and disagreement in its meaning and relationship to satisfaction and performance. Mowday et.al. (1979) summarize this literature and

identify the two main streams of thought. On the one hand, organizational commitment is portrayed in terms of commitment-related behaviors, which reflect the individual's choice to link her or himself to the organization. The alternative has been to portray commitment as an attitude, and to measure it in that fashion. Mowday, et.al. focus on this latter approach. In particular, they point to the lack of systematic efforts to assess the psychometric properties of tailor-made, attitude-based measures of commitment commonly used in past research. They then offer extensive evidence of the reliability and validity of their measure, the Organizational Commitment Questionnaire (OCQ). While this effort is quite comprehensive and impressive, replication is obviously required and an analysis of the potential influence of social desirability, which they ignored, seems necessary.

Social desirability (SD) is usually described as a response style (Jackson & Messick, 1958) which reflects a need for social approval and the belief that this can be attained by means of culturally acceptable and appropriate behaviors (Marlowe & Crowne, 1961). It is usually defined operationally as response to the Marlow-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). Any situation which asks employees to express their evaluation of their job or organization, therefore, opens the possibility of biased response due to a desire to appear committed to the organization. This very point leads to the need for investigation of any relationship found between social desirability and the OCQ.

As Mowday, et.al. define commitment, one major factor is "a strong desire to maintain membership in the organization (p. 226)." The possibility that an employee would overstate his or her support of the organization is clearly there. Mowday, et.al. also refer to the fact that the OCQ is transparent with regard to its purpose, making it easy for a respondent to dissemble in any way he or she might choose. They provide a warning that the questionnaire must be administered with caution. Arnold and Feldman (1981) give at least indirect support for this warning when they report in a recent study that high SD persons tended to overstate the importance of job characteristics such as autonomy and opportunity to use skills and abilities, and to understate the importance of pay and fringe benefits, when asked to evaluate these as criteria of job choice. Commitment may be similarly overstated, although as Nunnally (1978) points out, attitude measures such as the OCQ should not be unduly influenced by SD, if the anonymity of subjects is well protected. Such anonymity may be a problem in settings where the OCQ is used; not in the ethical sense of violating anonymity, but rather in convincing respondents that anonymity really will be preserved and how the results will be used. To the extent that SD and OCQ responses share common variance, it may be said that they are dependent upon one another and detract from the value of the OCQ as an effective measure. This study tests for the presence of such dependence.

METHOD

Sample

Data were collected from a total of 534 managerial and non-managerial employees from five purposely diverse organizations.

A brief profile of these employees follows:

Financial Institution. A representative sample of 257 employees from the highest to lowest levels, performing all functions, was taken from a relatively large financial institution. The median age was 36, 106 had completed college and 16 held graduate degrees. Median tenure with this organization was 8 years.

Manufacturing Plant. A representative sample of 87 employees from the highest to lowest levels, performing all functions, was taken from this medium sized plant. The median age was 36, 19 had completed college, and three had not completed high school. Median tenure with the firm was 10 years.

State Agency. A representative sample of 80 employees from the highest to lowest levels, performing all functions, was taken from a relatively large agency of state government. Median age was 35, 25 had completed college and 5 held graduate degrees. Median tenure with this agency was four years.

Campus Police Department. Seventy-three employees from the chief on down to most clerks and patrolpersons were used in this relatively large university's police department. Median age was 46, 13 had completed college,

and 1 held a graduate degree. Median tenure with the department was 12 years.

Army and Navy ROTC Units. All (N=43) members of the Army and Navy ROTC departments of a relatively large university were used in the study. The median age was 34, 9 were college graduates, and 8 held graduate degrees. Median tenure in the military was 10 years.

Measures

Questionnaires were filled out and collected during working hours at each respondent's work location. The questionnaires completed included the OCQ (Mowday, et.al, 1979), Social Desirability Scale (Crowne & Marlow, 1960) and the Job Description Inventory (JDI) (Smith, Kendall & Hulin, 1969).

RESULTS

Attempting to replicate the Mowday, et.al. study as much as possible, several analyses were made to assess the psychometric properties of the OCQ. Specifically, means and standard deviations, internal consistency reliability, discriminant validity, and social desirability bias were assessed.

Means and Standard Deviations

Table I summarizes the distribution of responses to the OCQ in each of the five samples. Although a 7-point Likert scale was used on the original OCQ, this was modified to an easier to administer 5-point scale in the present study. Thus, the midpoint for the Mowday et.al. analysis is a "4" and in the present study a "3". This should be remembered if a direct comparison is made with the Mowday et.al. data. In both the

studies, the mean scores were just above the midpoint of the scales used. The standard deviations, and examination of frequency plots of item responses, indicates that the full range of responses was used and their distribution within each sample was acceptable.

(Insert Table I about here)

Internal Consistency Reliability

Coefficient α , item analysis, and factor analysis were used to assess the internal consistency of the OCQ. Table I reports coefficient α for the five samples, ranging from .82 to .91. These are high, and within the range of those reported by Mowday, et.al.

Table II shows item-total correlations resulting from item analysis of the OCQ for the five samples. Generally, the results parallel those reported by Mowday, et.al. The correlations range from .139 to .777, with the median correlation being .533. Negatively worded items tend to have lower correlations than positive items, but the differences are small and not completely consistent. All of the items appear to be homogeneous with respect to the underlying attitude construct measured by the OCQ.

As a further check on the structure of the questionnaire, and in replication of Mowday, et.al., a factor analysis was performed. Since samples in the current study were generally smaller, and since no differences were found across the samples of OCQ responses (one-way ANOVA was used, results n.s.), the samples were pooled for the factor analysis. The procedure used was a principal factors analysis, with varimax rotation. Table

III shows that one factor was found and this gives further support to the results of the item analysis.

When the results of the item analyses of Mowday, et.al's six samples, the present item analyses, and the factor loadings and communality estimates from the present factor analysis are compared, clear similarities are apparent. The results of this study tend to support the Mowday, et.al. conclusion that the OCQ is relatively homogeneous and internally consistent.

(Insert Table II & III about here)

Discriminant Validity

Mowday, et.al. compared the OCQ with several other measures including one on job satisfaction. Table IV reports correlations and shared common variances (Nunnally, 1978) between the OCQ and the five scales of the JDI (Smith, Kendall & Hulin, 1969) used in this study. In general, the results show slightly lower correlations between OC and these satisfaction measures than were reported by Mowday, et.al. Therefore, there does appear to be some overlap, i.e. a lack of discrimination, between the constructs measured; however, the amount due to common methods variance and the amount due to the conceptual similarity of job satisfaction and commitment cannot be determined from these data alone. As Mowday, et.al. point out, it should be expected that commitment would be related to other job-related attitudes; however, these correlations are somewhat higher than would be desirable as a conclusive demonstration of discriminant validity, as was also the case in their study.

(Insert Table IV about here)

Social Desirability Bias

Responses to the OCQ and the Marlowe-Crowne social desirability scale (SDS) were correlated as a test for the influence of social desirability on OCQ results. Table V presents means, standard deviations, and reliabilities for the SDS in the five samples. The reliabilities found for the campus police and ROTC samples are relatively low, which should lead one to interpret the overall results with some caution. However, the other three samples indicate relatively high reliabilities.

(Insert Table V about here)

Table VI presents the correlations and shared common variances between commitment and social desirability. Although there is a significant relationship in most of the samples, overall, the level of correlation is quite moderate--the median is approximately .241--but the attenuation-adjusted shared common variances indicate that there is some influence of social desirability response bias present in the OCQ administered to these samples.

DISCUSSION

Our analysis of the reliability of the OCQ found clearly consistent results with those reported by Mowday, et.al (1979). The 15 item questionnaire appears to measure one factor, and each of the items appears to correlate adequately with the questionnaire as a whole.

The validity analysis was limited to examining the OCQ in relation to another popular attitudinal measure of employee satisfaction, the JDI (Smith, Kendall & Hulin, 1969). Again the

results basically replicate those of Mowday, et.al. Although there are higher correlations (in the .4 range) between the JDI and the OCQ than would normally be desired if the two measures are considered to be truly measuring two distinct constructs, there are some other analyses that lend some support to the validity of OCQ. In particular, the data indicated the probability of common methods variance in the OCQ and JDI. In addition, it was found that in general the OCQ was more strongly related to conceptually similar job satisfaction attitude scales (e.g., the two highest correlations were with satisfaction with the work itself and satisfaction with promotion). These results are certainly not sufficient to demonstrate the construct validity of the OCQ, but they also do not invalidate the instrument. At least for exploratory research and until more analyses are made that clearly invalidate the instrument, continued use seems justified.

The results of the social desirability analysis leads to a cautionary note in the use of the OCQ. Although the results of this study do not invalidate the OCQ because of SD bias, they do point out quite clearly that what Mowday, et.al. mentioned as a possibility--that employees may distort responses--probably does happen quite frequently. Social desirability has been studied extensively, and is well known as one of the most pervasive of response styles. It is not surprising, therefore, that an instrument so obvious and transparent as the OCQ would be subject to this bias. The recommendation flowing from this study is simply to include a measure of social desirability as a part of any research program using the OCQ, or any other transparent

self-report measure for that matter, and control for its influence statistically, if necessary.

Although two of the organizations sampled showed nonsignificant correlations between the OCQ and social desirability, this may have been due to other, unmeasured characteristics (e.g. both are quasi-military units with accompanying authority structures, etc.). In the other samples there was a significant relationship. Thus, the recommendation is to test for the presence of so common a bias as social desirability in questionnaire studies of this type, if for no other reason than to rule it out as an explanation of the results found.

Obviously, more replications similar to those reported in this study are needed to assess the reliability and, especially, the validity of the organizational commitment questionnaire. Based on the evidence so far, however, the OCQ appears to be off to a sound start as an effective measure of an increasingly important area for organizational behavior research and practice.

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Table I
Means, Standard Deviations and
Internal Consistencies for OCQ

	<u>n</u>	<u>Means</u>	<u>SD</u>	<u>Coefficient α</u>
Financial Institution	253	3.61	.72	.91
Manufacturing Plant	88	3.62	.68	.85
State Agency	78	3.65	.66	.84
Campus Police Department	73	3.64	.66	.82
ROTC Units	42	3.93	.79	.89

Table II

Item Analyses for the Organizational
Commitment Questionnaire

<u>OCQ</u> <u>Item No.</u>	<u>Financial</u> <u>Institution</u>	<u>Manufacturing</u> <u>Plant</u>	<u>State</u> <u>Agency</u>	<u>Campus</u> <u>Police</u>	<u>ROTC</u> <u>Units</u>	<u>Item-Total</u> <u>Correlation</u>
1	.597	.490	.226	.354	.272	.388
2	.686	.553	.556	.310	.456	.512
3*	.512	.478	.298	.304	.185	.355
4	.495	.301	.229	.287	.621	.387
5	.538	.531	.571	.621	.679	.588
6	.753	.569	.507	.689	.744	.652
7*	.524	.139	.348	.332	.717	.412
8	.663	.644	.417	.604	.752	.616
9*	.605	.355	.490	.243	.617	.462
10	.560	.276	.322	.441	.535	.427
11*	.609	.632	.605	.473	.587	.581
12*	.599	.542	.619	.391	.536	.537
13	.658	.529	.508	.440	.238	.475
14	.702	.499	.636	.465	.747	.610
15*	.686	.538	.533	.477	.777	.602

*Negatively worded items

Table III

Factor Loadings and Communality Estimates:
Organizational Commitment Questionnaire*

OCQ Item No.	Factor Loading	Estimated Communality
1	.45	.21
2	.67	.46
3	.40	.16
4	.37	.13
5	.72	.51
6	.75	.57
7	.47	.22
8	.69	.47
9	.65	.42
10	.65	.43
11	.66	.43
12	.61	.37
13	.59	.34
14	.72	.51
15	.64	.41

*Pooled Sample, n = 534.

Correlations and Shared Common Variance (SCV):

Job Satisfaction (JDI) and Organizational Commitment (OCQ)

JDI SCALES

Table V

Means, Standard Deviations, and Reliability Estimates for
the Marlowe-Crowne Social Desirability Scale (SDS)

	n	Mean	SD	(K-R 20) Reliability
Financial Institution	253	16.68	5.71	.79
Manufacturing Plant	88	16.68	7.01	.86
State Agency	78	17.71	6.69	.84
Campus Police Department	73	18.23	4.67	.67
ROTC Units	42	17.40	5.06	.68

Table VI
Correlation and Shared Common Variances (SCV)
OCQ and SDS

	n	r	p	scv
Financial Institution	253	.241	.0001	.08
Manufacturing Plant	88	.334	.001	.15
State Agency	78	.235	.04	.08
Campus Police Department	73	.121	.11	.03
ROTC Units	42	.250	.11	.10
Median		.241		